

REMARKS

The Office Action mailed on December 04, 2008, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 21-31 were pending in the application. By this paper, Applicants cancel, without prejudice or disclaimer, claim 27, and add claims 32-41. Therefore, claims 21-26 and 28-41 are now pending.

Applicants respectfully submit that the present application is in condition for allowance for at least the reasons that follow.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, claims 21-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over JP 8-096820 (JP '820). In response, in order to advance prosecution, and without prejudice or disclaimer, Applicants cancel claim 27, and amend claims 21 and 28, as seen above, and respectfully submit that the claims are not obvious for at least the reasons that follow.

Claim 21 has been amended to recite not only a first group of elements that are not present in the device of JP '820, but also a second group of elements that alleviate problems created by the aforementioned first group of elements which are not present in the device of JP '820, thus rendering at least the second group of elements unobvious to have incorporated into JP '820, as there is no reason to modify JP '820 to have this second group of elements because JP '820 does not have the first group of elements. Accordingly, any modification to JP '820 to arrive at the invention of claim 21 would require actions which would not have been undertaken by the ordinary artisan without instruction from the innovator, as will now be detailed.

Claim 21 recites that a plurality of gas flow paths are formed in parallel with each other to collectively form a gas flow path bundle. This gas flow path bundle is formed *in a serpentine shape having a winding portion*. These elements are not present in JP '820. To the contrary, the gas passages of JP '820 are all straight-lined.

The distribution of the contact pressure of the rib(s) against the porous electrodes has a specific pattern at the winding portion of the serpentine-shaped gas flow path which may vary depending on the mechanical characteristic of the porous electrode and/or the configuration of the flow path. The pressure distribution of the gas flowing along the paths also has a specific pattern at the winding portion. To achieve a precise adjustment of gas diffusion inside the porous electrode at the winding portion, unevenly distributed pressure profiles in the cross sections of the gas flow path at the winding portion, which is caused by the inertia and viscosity of the flowing gas, must be compensated for. In the invention of claim 21, the compensation takes the form of providing a plurality of projections for pressing the porous electrode, on the bent rib, wherein the projections differ in a height and/or a width thereof as claimed, thereby achieving a precise, selective adjustment of gas diffusion.

JP '820 is silent about a selective adjustment of gas diffusion inside an electrode. In JP' 820, the gas passages of the respective electrodes are all straight-lined, and, therefore there is no winding portion out of which gas may be induced to seep. Because the ordinary artisan would not have considered there to be any possible problems with the straight-lined gas passages of JP '820, the ordinary artisan would not have found it obvious to modify JP '820 to include the recited projections as claimed. Thus, claim 21 is not obvious for at least this reason, but there is more.

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In rejecting the claims, the Office Action proffers a series of factual assertions (*e.g.*, on page 3 of the Office Action) to support the basis for the alleged motivation to modify JP '820. These factual assertions are not substantiated with any evidence or rationale. It appears that, on page 3 of the Office Action, the Office Action relies on common knowledge in the art, as is discussed and permitted in MPEP § 2144.03. However, there are explicit guidelines that must be followed when taking official notice (*e.g.*, “the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable” MPEP § 2144.03(B)) – guidelines that have not been followed in the Office Action.

Further, Applicants note that § 2144.03(C) allows an applicant to traverse such an assertion, and that when an applicant does so, “the examiner must provide documentary evidence in the next Office Action if the rejection is to be maintained.” (MPEP § 2144.03(C).) Absent a citation by the PTO of a reference that can be evaluated for all its teachings, Applicants hereby traverse the assertion that it would have been common knowledge in the art that “reactant gas pressure is highest at the inlet of the flow field” of JP ’820. Applicants further traverse the assertion that to “account for the [alleged] flow field pressure drop, it would be obvious to use a graded projection on the rib to vary the electrode contact pressure,” and that the “use of a plurality of projections differing in height or width arranged consecutively in a longitudinal direction along the rib . . . would be obvious since this would involve configuring the single graded projection . . . into several discrete projections.” Applicants thus request, relying on § 2144.03, that the PTO cite a reference and exactly identify where such a reference teaches the alleged knowledge in the art, or else allow the claims.

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In summary, claim 21 and its dependencies are not obvious for at least the reasons just detailed. The remaining claims are likewise not obvious for at least the pertinent reasons that render claim 21 not obvious. In this regard, problems associated with the winding flow path detailed above are also experienced with an interdigitated flow path.

Allowance of the application is requested.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a

check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Crepeau is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

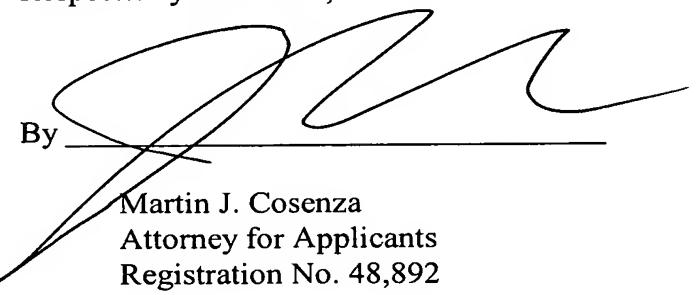
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Respectfully submitted,

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